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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/775,884

02/10/2004

Richard W. Molstad

10290US02

1434

7590

03/10/2005

Attention: Eric D. Levinson
Imation Corp.
Legal Affairs
P.O. Box 64898
St. Paul, MN 55164-0898

EXAMINER

OLSON, JASON C

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/775,884

Applicant(s)

MOLSTAD ET AL.

Examiner

Jason C Olson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05/04/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 5 is objected to because of the following informalities: the limitation, "the second series", lacks antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 4, 7, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Beck et al. (US 6,700,729), hereafter, Beck.

Regarding claim 1, Beck teaches a linear recording medium (see figure 4 and 18, item 20), for use with a recording drive designed to read parallel servo transitions having a substantially non-zero azimuth angle (see figure 18, item 91 and col. 14, ln. 31-35), and no modulation of distance between immediately adjacent parallel servo transitions on the medium (see figure 4, item 43 and 45), comprising a series of parallel servo transitions at a zero azimuth angle (see figure 4, item 33 and 35).

Regarding claims 3 and 4, Beck teaches the linear recording medium is a magnetic recording medium and a tape recording medium (see col. 7, ln. 53-55).

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Regarding claim 7: Claim 7 has limitations similar to those treated in the above rejection(s), and is met by the references as discussed above. Claim 7 however also recites the following limitations as taught by Beck: a servo read head connected (see figure 18b, item 91 and 91).

Regarding claim 11, Beck teaches providing a linear recording medium, upon at least a portion of which are first parallel servo transitions at a non-zero azimuth angle (see figure 4, items 43 and 45); and second parallel servo transitions at a zero azimuth angle (see figure 4, items 33 and 35); and using the drive to read position error signal from the first parallel servo transitions at each transverse location on the medium (see figure 18b, item 91 and col. 14, ln. 31-34); comparing the position error signal to an expected value (see col. 14, ln. 33-37; it is interpreted by the examiner that using the servo to translate the data head encompasses comparing the position error signal to an expected value); using the drive to read system noise from the second parallel servo transitions (see figure 18b, item 81 and col. 14, ln. 1-8; it is interpreted by the examiner that the signals S1 and S2 contain system noise); and comparing the system noise to an expected value (see figure 12, items S1, S2, PA1, and PA2 and col. 14, ln. 27-29; it is interpreted by the examiner that the signature is the expected value).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beck and Albrecht et al. (US 5,930,065), hereafter Albrecht.

Regarding claims 2 and 8, Beck teaches all the limitations of claims 1 and 7 above. Beck fails to disclose modulated distances between adjacent parallel servo transitions as a function of location of the transitions on the medium. However, Albrecht is relied upon to teach modulated distances between adjacent parallel servo transitions as a function of location of the transitions on the medium (see col. 6, ln. 13-16 and in figure 4 it can be seen the distance between the servo transitions are shifted or modulated as a function of location). It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon servo transitions of Beck by applying the teaching of modulated servo transitions as taught by Albrecht for the purpose of encoding data into the servo track as described by Albrecht in column 2, lines 45-50.

Claims 5, 6, 9, 10, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beck and the applicant's admitted prior art.

Regarding claims 5, 6, 9, and 10, Beck teaches all the limitations of claims 1 and 7 above. Beck fails to disclose a second series has a roughened gap edge profile and the roughened gap edge profile has peak-to-peak roughening amplitude (A) is equal to $((Tw/2) \tan \theta)$, where θ is a slant angle and the profile has a cross track wavelength λ approximately equal to a servo read head track width Tw . However, the applicant's admitted prior art teaches a second series has a roughened gap edge profile and the roughened gap edge profile has peak-to-peak roughening amplitude (A) is equal to $((Tw/2) \tan \theta)$, where θ is a slant angle and the profile has a cross track wavelength λ approximately equal to a servo read head track width Tw (see figure 7 and page 10,

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ln. 22-page 11, ln. 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon servo tracks of Beck by applying the teaching of a roughened gap edge profile as taught by the applicants admitted prior art for the purpose of simulating an off-azimuth condition.

Regarding claims 12 and 13: method claims 12 and 13 are drawn to the method of using the corresponding apparatus claimed in claims 5, 6, 9, and 10. Therefore method claims 12 and 13 correspond to apparatus claims 5, 6, 9, and 10 and are rejected for the same reasons of anticipation as used above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason C Olson whose telephone number is (571)272-7560. The examiner can normally be reached on Monday thru Thursday 7:30-5:30; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Hudspeth can be reached on (571)272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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JCO

March 7, 2005


DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
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